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# Amateur Radio

JOURNAL OF  
THE WIRELESS  
INSTITUTE OF  
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3506 Kc.	7012 Kc.	7054 Kc.	8090 Kc.
3509.1 Kc.	7015 Kc.	7058 Kc.	8126 Kc.
3511.2 Kc.	7016 Kc.	7058.5 Kc.	8150 Kc.
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## WI BROADCASTS

All Amateurs are urged to keep these frequencies clear during, and for a period of 15 minutes after, the official Broadcasts.

VK3WI: Sundays, 1100 hours EST, 7146 Kc. and 2000 hours EST, 50 and 144 Mc. No frequency checks available from VK3WI. Intrastrate working frequency, 7125 Kc.

VK3WI: Sundays, 1130 hours EST, simultaneously on 3573 and 7146 Kc., 51.016 and 146.25 Mc. Intrastrate working frequency 7125 Kc. Individual frequency checks of Amateur Stations given when VK3WI is on the air.

VK4WI: Sundays, 0900 hours EST, simultaneously on 3560 and 14342 Kc. 3560 Kc. channel is used from 0915 hours to 1015 hours each Sunday for the W.I.A. Country hook-up. No frequency checks available.

VK5WI: Sundays, 1000 hours SAST, on 7146 Kc. Frequency checks are given by VK5MD and VK5WI by arrangements only on the 7 and 14 Mc. bands.

VK6WI: Sundays, 0930 hours WAST, on 7146 Kc. No frequency checks available.

VK7WI: Sundays, at 1000 hours EST, on 7146 Kc. and 146.5 Mc. No frequency checks are available.

## EDITORIAL



## WHY DON'T WE RAISE OUR STATUS?

When the long slanting rays of the winter sun breaks through the early morning mist amongst the trees in the garden turning it into a fairy-like phantasy of light and shade; when the same trees are budding into early leaf and a galaxy of colour spreads itself throughout the land as the blossoms burst their buds; when the blue-green of the sea stands out in soft relief against the glare of the hot white sands, and holiday makers seek shelter wherever the flora permits; when the days grow shorter and the leaves on the trees turn from green to yellow, brown, russet and orange, and the green of the turf changes to a kaleidoscopic pattern; when all these changes of nature take place and human beings change their habits to suit the requirements of the seasons, you will see people abroad with a camera. They're photographers! Anybody will tell you that!

Mr. Public knows they are photographers because they carry a camera—a piece of equipment recognised by the masses and of which almost everyone has an elementary working knowledge. And even if these photographers are heard to loosely refer to having "shot the scene at F.16 at 1/150th second using a K2 filter," the average Mr. Public recognises them as photographers.

An experimenter with model aircraft, boats, railways and other working facsimiles of their larger brothers; the home carpenter and engineer, the specialist in bulb cultivation or some other section of the horticultural art—all these members of the hobby conscious community are easily recognised by Mr. Public. He has no trouble at all in having some elementary knowledge of the other man's interests.

But what of the Amateur? Generally speaking he is referred to as either a radio maniac or a wireless crank—neither of which is really an elevating status in which hobbyists such as ourselves should be classified.

Why is it that Amateurs generally are categorised thus? Are we ourselves to blame? Is it because we reply to the layman's questions in such high falutin' terms so much above his head technically that he thinks we are mad? Or is it that "wireless" is something so incomprehensible to the average person that he considers we must be maniacs or cranks to possibly understand such things—and this in spite of school curriculums having included physics, chemistry and electricity and magnetism for the past two decades or more?

Whatever the reason, it is time we did something about educating Mr. Public, and this we can assuredly do without raising his rancour or squashing his human tendency to enquire about something strange to his normal habitude.

We should never let pass an opportunity to explain our hobby and its attributes to anyone who shows interest. But when we explain the intricacies of our hobby let us remember to use terms that the layman can understand; let us use the analogies we were taught in our early studies; let us remember that unique occasion when we entered into studies of wireless bereft of even elementary knowledge of such things ourselves. It was at this time that we ourselves needed a simple answer to our questions.

We as technical hobbyists can understand the idiosyncrasy of Mr. Public when he calls us a maniac or a crank, and we can improve our status greatly by giving his enquiries intelligible consideration. From his ranks must come the future members to our ranks. Keep the thought well in mind—you'll find it will pay handsome dividends to you and the hobby of Amateur Radio and bring us into line with our fellow hobbyist, the photographer, the home carpenter, the engineer, the horticulturalist.

FEDERAL EXECUTIVE.

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# Multi-Band Tuning Unit

BY JOE ROGERS,\* VK3TO

**M**ULTI-BAND Tuning Units for the final stage of Amateur transmitters are so convenient and efficient that it is hard to account for the small number in use.

Whenever the writer, in describing his gear, mentions the multi-band tuning unit he usually receives replies such as, "What type of tuning unit did you say? Do you vary the coil with a tap switch?" with the usual final remarks, "What about sketching out the dope for me?"

Excellent tuners of the type to be described have appeared in both "A.R." and "QST," but whether Amateurs generally have not understood the benefits to be derived from their use or that they have appeared complicated and seemed beyond their ability to get going is hard to say, but the fact remains, there are few in use.

The writer has carried out many experiments in an endeavour to simplify the multi-band tuners previously described, the result being a unit that can be built by anyone and which will work the first time it is hooked up.

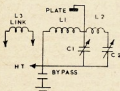


Fig. 1.

Examination of the theoretical diagram at Fig. 1 will show that if L1 be replaced with an r.f. choke, C1, C2 and L2 form a standard split-stator tank circuit which is exactly the way it operates. The coil is adjusted so that the range 30 Mc. to 14 Mc. is covered with some overlap at each end.

So far we are tuning the three high frequency bands, 28-30, 21-21.4, and 14-14.35 Mc. Now remove the r.f. choke and replace it with a coil L1, at the same time removing or shorting out L2. We now have the usual form of single ended circuit with condensers C1 and C2 in parallel. This circuit is adjusted to cover the range 7.15 Mc. to 3.5 Mc.

It will be noticed that both sections of the condenser C1 and C2 (which is a split-stator type with a maximum capacity of approx. 130 pF. per section) are in series on the high frequency bands and in parallel on the low frequency bands, giving almost an optimum L:C ratio on all bands.

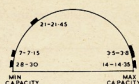


Fig. 2.

Our next problem is how to cover both ranges without switching, and the answer is simple and effective: Replace L2 or remove the short and the job is complete. Coil L2 acts merely as a long lead on the range 7.15 to 3.5 Mc., while coil L1 serves as a very effective r.f. choke on the range 30 to 14 Mc. and also serves to couple power to the load on all bands.

This unit does not cover the bands in sequence as might be expected, but as shown at Fig. 2.

In practice, coils L1 and L2 are wound on the same former and can be regarded as a single tapped coil. The recommended mechanical layout is as shown at Fig. 3.

**Important.**—It should be noted that the condenser frame is connected to high tension positive, making it necessary to use a good insulated coupling on the shaft and insulated feet on the frame.

The link winding is wound over the cold end of L1 and must also be well insulated.

A variable condenser of 0.00035 uF. in series with the link gives adequate control of loading.

The theoretical diagram at Fig. 4 shows the completed unit.

Coils are wound 8 turns per inch on a 3 inch diameter former and are adjusted so that 30 Mc. and 7 Mc., or 14 Mc. and 3.5 Mc. do not appear at the same spot on the dial. Very slight adjustment of L1 or L2 will achieve the desired result.

Any split-stator condenser having a max. capacity of approx. 130 pF. per

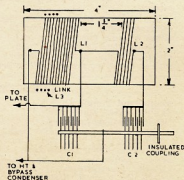


Fig. 3.

section and a reasonably low minimum capacity will serve provided the plate spacing is suited to the voltage in use.

The single section condensers from the TA12 transmitter do an excellent job when the three centre stator plates are sawn out.

Should you desire to use a different size former than 2 inches or one threaded to wind more or less than eight turns per inch, the following adjustment procedure is recommended.

Wind L1 with several turns more than you consider will be necessary, then wind L2 and adjust it for coverage of the high frequency range. Use your grid dip oscillator here and be sure to connect a small capacity, say 30 pF. to replace the tube plate and strays.

When L2 is completed you can adjust L1 with very little effect on your adjustment of L2, but this does not hold when the coils are adjusted in the reverse order.

The link winding specified is optimum when working into 75 ohm line and will need to be increased if 300 ohm or 600 ohm line is used.

Loading is approx. equal on all bands with a resistive load.

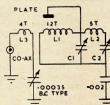


Fig. 4.

C1 and C2—130 pF. per section.

The writer uses this tuner with a band switched exciter using one wafer of the band switch to control relays switching in separate antennae for each band, thereby reducing band changing to two operations: (1) turn the band switch, (2) resonate the final. Loading is then touched up if necessary with the loading control condenser.

## ACCURATE FREQUENCY TRANSMISSION RESULTS

Following is the result of the Accurate Frequency Transmissions from VK3WI on 27th August, 1953:—

3500 Kc.	.....	17 cycles low
3515	.....	7.5 " "
3545	.....	15 " "
3575	.....	98 " "
3605	.....	24 " "
3635	.....	30 " "
3665	.....	68 " "
3695	.....	28 " "
3725	.....	14 " "
3755	.....	1 " "
3785	.....	4.5 " "

\* 61 Broadway West, Yallourn, Victoria.



# THE "GAMMA" MATCH

BY E. GABRIEL,\* VK2AVG

Many Amateurs strike matching difficulties when feeding an antenna with co-axial cable.

As the centre impedance of a half wave varies with height above ground and the proximity of surrounding objects, a co-axial cable feedline will seldom match in correctly, thus giving rise to a high standing wave ratio.

City Amateurs, and those with confined space, which makes the use of open wire or ribbon feed lines difficult, will find in the "Gamma" Match and co-ax cable a solution to their problems. This simple impedance matching device has considerably improved the writer's signal reports for both local and DX contacts on 40 and 20 metres.

## THE ANTENNA

Cut a one-piece half wave wire for the centre of the band, or, merely bridge your present half wave dipole at the centre. The centre insulator, with a piece of  $2\frac{1}{2}'' \times 2\frac{1}{2}'' \times \frac{1}{4}''$  perspex or similar material attached to it, supports the co-ax cable.

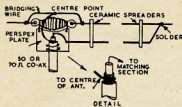


Fig. 1.

Bare the end of the co-ax so as to show about  $\frac{1}{2}''$  of the centre conductor and  $\frac{1}{4}''$  of the braid. Wind a few turns of tinned copper wire around the braid and solder quickly without excess heat, otherwise the polystyrene insulation will melt. Solder the end of this wire to the measured centre of the antenna. To the centre conductor of the co-ax solder a length of the same wire as used for the antenna, run this out to one side and space about  $1''$  to  $1\frac{1}{2}''$  from the main wire with ceramic or other spacers. Length of matching section depends upon the band—(see Fig. 2).

\* 39 Narooma Rd., Northbridge, Sydney, N.S.W.

Attach a clip to end of this wire temporarily, seal the end of the co-ax carefully with tape and rubber solution to exclude moisture.

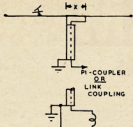


Fig. 2.

$X = 2' 2''$  for 20 mx,  $4' 4''$  for 40 mx.

## THE FEED LINE

Any length of co-axial cable of any impedance may be used as the matching section can be altered to suit.

The braid of the co-ax is earthed at the transmitter and the coupling can be via a two or three-turn link to the final or a pi coupler.

## MATCHING AND LOADING

Attach the matching section wire to the antenna by the clip at the approximate distance from the centre for the band, i.e. approx.  $2' 1''$  to  $2' 2''$  for 20 metres, and  $4' 2''$  to  $4' 4''$  for 40 metres if using 70 ohm co-ax cable. Raise the antenna up to its operating height and test load the transmitter.

By varying the point of attachment of the matching wire, the best loading conditions will be obtained. An r.f. ammeter is a useful indicator as the best loading is shown by maximum r.f. current and minimum p.a. plate current dip.

When satisfied, remove clip and solder wire to antenna.

Instruments such as a Maxwell bridge standing wave indicator may be used to check for the residual s.w.r., but the matching is close enough for the average Amateur.

A further reduction in s.w.r. can be obtained by inserting a small variable condenser to tune out inductive resistance of the matching section (see Fig. 3).

The "Gamma" match may be used where any antenna is fed at a current loop point, such as extended wires fed a quarter wave from one end.

This efficient matching system also facilitates the loading of parasitic beams

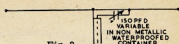


Fig. 3.

as it is far more flexible than the T match and other systems.

A big advantage of the match with normal wire antennae is broad band tuning, a change from one end of the band to the other requires only a minimum of retuning.

The writer wishes to acknowledge the assistance of VK2NI and others with experiments conducted.

## REFERENCES

"QST" for September, 1949, and February, 1952.  
"A.R.R.L. Handbooks."

# Use of Foreign Languages

Once again the liaison between the Federal Executive of the Wireless Institute of Australia and the Wireless Branch of the Postmaster General's Department has resulted in a privilege for the Australian Amateur.

As from and including 1st October, 1953, Australian Licensed Amateurs will be able to transmit in languages other than English.

Accordingly, action is being taken by the Department to amend paragraph 32 of the Handbook for the Guidance of Operators of Amateur Stations to read as follows:—

"32. An Amateur Station Licensee may transmit and receive in any recognised language, plain language messages relating to experiments, or consisting of remarks of a personal nature which, by reason of their unimportance would not normally be transmitted through the public communications systems."

This simply means that Australian Amateurs can talk to their overseas Amateur friends in their language if they are able to, providing that Regulation 32 of the Handbook is adhered to and that such messages are plain language messages as distinct from coded or cyphered messages.

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# A Simple Low Level Audio Peak Clipper

BY J. C. WATSON,\* VK6JW

**P**RIOR to commencing this article, the writer wishes to acknowledge Philips' Technical Abstracts for the basic idea of the clipper; also assistance from VK6GH, W. G. Hayman, for his interpretation of oscilloscope patterns and technical advice, and VK6HL, H. B. Lang, for the loan of the oscilloscope.

The clipper to be described is perhaps the simplest of all such clippers and has the added advantage that no L/C or R/C filter appears necessary after the clipping stage. There are several essentials, however, for its correct installation:—

- (a) An audio oscillator set at 1,000 cycles per second.
- (b) An oscilloscope for correct adjustment of the clipping so that both positive and negative peaks are clipped equally and commence clipping together.
- (c) All coupling condensers after the clipper must be 0.1  $\mu$ F, or larger, otherwise low frequency distortion, shown by a tilt on the clipped peaks as seen on the oscilloscope, will cause trouble.



Fig. 1.

Fig. 1 serves to show the placement of the clipper. It is a simple triode—any—and may be used to amplify or not as desired, and may also be used with or without negative current feedback as desired. This will be discussed later. It will be noticed that two pentodes in cascade are used ahead of the clipper. This is necessary to enable sufficient voltage to be presented to the clipper grid circuit so that the latter can then more effectively clip the peaks of the voice frequencies.

Frequency restriction should be applied over the first two pentode stages (the author deems it as a must that all Amateur telephony should have a restricted range of voice frequencies particularly above 3,000 c.p.s.). As mentioned previously, good bass response is essential after the clipper—this means that coupling condensers of at least 0.1  $\mu$ F. are necessary.

It will be noticed from Fig. 2, which is the circuit of the clipper, that the cathode and plate resistor values are not shown. Depending upon the individual circumstances as to whether the valve is to amplify or not, then R4 can be made any convenient value from 10,000 ohms to 50,000 or 100,000 ohms. However, once this resistance value is chosen, then the cathode resistor will hold only for this value of plate load.

It is optional whether C1 is used or not. Its omission will give negative current feedback with reduced gain of the stage. For the general operation of the clipper, it does not matter whether this is wired in or removed.

## ADJUSTMENT

An audio oscillator set at 1,000 c.p.s. and an oscilloscope set to give a sine wave on the screen with the 1,000 c.p.s. modulated note are essential to obtain the correct value of R3.

The audio oscillator is connected to the microphone input; the oscilloscope between clipper plate and ground. The voltage input to the microphone stage should approximate that of the microphone in use. R1 in Fig. 1 now becomes the clipping control and should be set between one third and half on.

A potentiometer of the wire wound variety about 10,000 to 20,000 ohms should be connected with one side to the cathode of the clipper and the moving arm to ground.

After switching on and adjusting the sine wave on the screen of the c.r.o., the cathode potentiometer is varied until both sides of the sine wave are clipped equally, and commence to clip together. This adjustment is most easily found by increasing and decreasing R1 and watching the screen of the c.r.o. while adjusting the value of the potentiometer. Once this adjustment is correct, the value of the resistance from cathode to ground is read on an ohmmeter and this value wired in circuit.

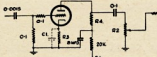


Fig. 2.

Remember that this value of cathode resistor will be good only for the particular triode valve being used and the particular value of its plate load resistor. Incidentally R2 may be turned off completely while the above adjustment is being carried out.

## METHOD OF OPERATION

R1 now becomes the clipping control while R2 becomes the volume or gain control. Normally R1 is set with light clipping as shown on the oscilloscope connected between clipper plate and ground, and R2 is set to modulate the rig 100 per cent.—again as shown on the oscilloscope connected in the normal manner for such observation. R2 should then be left or locked in this position and the amplifier gain, and hence the modulation, controlled purely by R1.

In this manner a signal may be radiated with no clipping—yet with a high modulation level—or a medium to heavily clipped signal with modulation peaks not exceeding 100 per cent. This is of course with the usual proviso that all subsequent stages from the clipper are operating linearly.

After the above adjustments are completed the audio oscillator should be set anywhere from 300 to 500 c.p.s. and the sine wave—clipped—should be observed at the grids to ground and

plates to ground, with the oscilloscope, on stages after the clipper. If the square topped wave is badly tilted, then in an r.c. stage the grid coupling condenser is not large enough or is no good, and if an l.c. stage, such as transformer coupling, then the transformer bass response is insufficient.

Care should be taken too, to ensure that with the two potentiometers set at their maximum working position that no clipping is occurring through overload to any of the stages in the amplifier. You may be surprised to find that some class A voltage amplifiers become very effective clippers—one side of the sine wave only—when gain controls are advanced to near maximum, which seems to be a habit inbred in every Ham. This is the reason why two pentode stages are used ahead of the clipper, so that the clipping control need never be advanced further than 50 per cent. on and thus the second pentode should be working well within its linear range.

In conclusion, the author wishes to also thank VS1AD, E. C. Yates, for the many checks given both on the pan-adaptor and via the tape recorder. This clipper has now been in use for six months or more from this station and nearly as long from VK6AP, so that anyone interested can observe or hear the resulting modulation. In all checks given visually by pan-adaptor the modulation levels of VK6JW and VK6AP are never below 85 to 90 per cent, many times much higher and without any sign of splatter. Perhaps the best recommendation is from local Hams who have not complained of splatter, indicating that there is none or that they are being extremely tolerant.

## LONDON-CHRISTCHURCH AIR RACE

Pre-war Amateurs will undoubtedly recall the London-Melbourne Air Race in 1934 to celebrate the Centenary. During this event, Australian Amateurs maintained a listening watch and were able to perform a great service to the participants. All Australian Amateurs are asked to co-operate to maintain a listening watch during the forthcoming London-Christchurch Race so that assistance can be given in the event of an emergency.

H.f. and v.h.f. channels used will be those allotted to the respective Flight Information Regions as directed by the Civil Aviation Authorities. Full details regarding these and other relative data will be made available for Divisional Broadcasts as received. If in doubt, contact your Divisional Secretary.

## AMATEUR TELEVISION

It is regretted that Part Four of the series of articles on Amateur Television will be held over until next issue owing to lack of space.

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# Series Connection of Rectifier Power Transformers

BY V. J. McMILLAN,\* VK2AWN

As a result of reading some "mail" between VK3 and VK5 on 40 metres, it occurred to the writer that an article on the theory and practise of running rectifier power transformers in series would be of interest to a number of Hams.

There has been quite a number of 115-volt primary transformers on the market (ex-American disposal stock) at a relatively cheap figure. One particular transformer which comes to mind consists of a primary rated at 115 volts, a centre tapped secondary rated at 350 volts per side, and several filament windings. On the assumption that this transformer was designed to run on 50 cycles supply, it is quite possible to connect two similar transformers in series and thereby obtain a transformer having a capacity of approximately twice the rating of a single transformer. That is to say, we can have a transformer group which will give 700 volts per side instead of 350 volts per side and our primary voltage is now 230 volts instead of 115 volts. The advantages are obvious since we can now obtain a final direct current voltage of the order of 550-900 volts with a primary voltage more in line with Australian standards. The actual voltage will depend on the type of rectifier, resistance of the choke and whether we have a choke or condenser-type input filter.

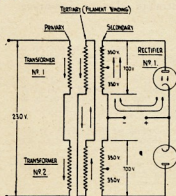


Fig. 1.

In order to obtain the full benefits of this arrangement and to obtain minimum voltage regulation and also minimum iron loss (which results in core heating), we must provide a low impedance path between the two transformers. This is readily accomplished by paralleling the largest capacity filament windings.

Fig. 1 shows the connections between the two transformers and also the relative direction and magnitude of the current flow in the windings with equal turns in each of the three windings. (The actual current will, of course, depend on the turns ratio.)

It will be noted that under rectifier load conditions where only one tube is "firing" on alternate half cycles, the secondary load current in transformer No. 1 is counterbalanced to the extent of 50 per cent. in both the 115-volt primary winding and the tertiary winding in this transformer. The No. 2 transformer tertiary winding is energised from the tertiary winding of No. 1 transformer and this load current is reflected back into the primary of No. 2 transformer; since it is of the same value and direction as the primary current of No. 1 transformer, it offers a low impedance to this current flow. This sounds complicated, but is really quite simple if you refer to Fig. 1.

On the alternate half cycle the other rectifier "fires" and the current directions between the transformers change over, but otherwise behave in a similar manner to that just described.

A word of warning is necessary at this stage.

From the foregoing description it will be noted that the filament (tertiary) winding takes 50 per cent. of the secondary load current. Firstly make sure that the winding is capable of carrying this current. Secondly, if the transformer has more than one filament winding, do not parallel more than one winding unless you have facilities for checking the current in each winding. This is qualified by stating that the current division when more than one winding is paralleled, is dependent on the "mixed" winding impedances of all windings which are not readily calculable.

For the purpose of illustration we have assumed a "perfect" transformer, that is, one without losses or magnetising currents.

Those of you who have connected two transformers in series generally as shown, but without the paralleled filament windings, will tell me that it works alright. Sure it will work, but under very different conditions!

If we again assume two "perfect" transformers (that is, no iron loss or magnetising current), we find that with No. 1 rectifier firing and 100 per cent. load current in the secondary, we must draw 100 per cent. load current in the primary of No. 1 transformer (refer Fig. 2). This current must pass through the primary of No. 2 transformer in order to return to the other supply line. Since there is no load on the secondary of the No. 2 transformer, there is obviously no current required to counterbalance it in the primary. Therefore, the primary of No. 2 transformer will not pass the current from the primary of No. 1 transformer because a "perfect" transformer has infinite impedance.

These are a lot of words which say, in effect, that two "perfect" transformers could not work under these conditions. In practice both transformers have iron loss and magnetising current, and what actually happens is this. When No. 1 transformer primary current tries to pass through the No. 2 transformer

primary, it actually attempts to increase the magnetising and iron loss currents in the No. 2 transformer to a value necessary to counterbalance itself. To do this, it is necessary to apply a higher than normal voltage to the primary of No. 2 transformer which means that the 230 volts do not split 50/50 between the two transformers, but, in fact, the unloaded transformer has the highest voltage across the primary, and naturally the converse is true. That is to say, the loaded transformer has a lower than normal voltage across its primary which will naturally be reflected in the secondary output voltage.

You will not be able to measure this difference with an ordinary voltmeter since, on the alternate half cycles, the two transformers change over their functions and the nett result is that an ordinary meter will read substantially 50 per cent. of the normal line voltage at the series connection between the primaries of the two transformers. If you have a c.r.o. however, some interesting wave forms should be observable at this point.

Keen students of transformer design may detect some imperfections in this theory, but it is sufficiently accurate to be of some practical use.

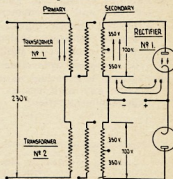


Fig. 2.

This theory satisfactorily explains the reason for an abnormally high "regulation drop" when referred to the final d.c. voltage. It also explains the reason for the higher iron loss and increased core heating, since on alternate half cycles, the transformer iron becomes more or less saturated.

A comparison of Fig. 1 and Fig. 2 reveals a difference in primary current with constant secondary load. Fig. 1 shows only one half the current in the primary as compared with Fig. 2. This obviously results in lower heating of the primary, and since transformer heating is a function of iron loss and copper loss in all windings (copper loss is a function of current and resistance), it follows that we can increase the load in either the secondary, or better still, in the tertiary (filament) winding.

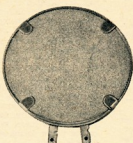
It is not possible to give even a general guide to possible loading values which can be obtained under these conditions, since these values depend on the individual design of the transformer. Use your discretion—connect them up and try them. If you can hold your hand tightly on the core and windings after one hour's operation, it should be OK for normal Ham use.

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One of the connecting lugs is directly connected to the case and care should be taken to solder the metal shield of the microphone cable to this solder lug, keeping the unscreened portion of the centre conductor as short as possible to eliminate hum pick-up.

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# WK-ZL DX CONTEST, 1953

The Wireless Institute of Australia, in conjunction with the New Zealand Association of Radio Transmitters, has pleasure in announcing the dates for the 1953 WK-ZL DX Contest, and hopes the conditions may be favourable to us during the Contest week-ends of October.

Scoring is on the basis of one point per contact, but otherwise follows the familiar A.R.R.L. pattern.

The dates for the Contest are: C.W.—19th and 20th October, 1953; Phone—17th and 18th October, 1953; Time—0901 G.M.T. Saturday to 1200 G.M.T. Sunday.

The Receiving Section covers both C.W. and Phone.

The method of scoring is quite simple. One point is scored for each contact and the final score is obtained by multiplying the number of contacts by the number of countries (or VK-ZL districts) worked on each band.

A certificate will be awarded to the highest scoring stations in both Australia and New Zealand, and to the highest scorer for each particular country. Call areas of the United States and prefixes of British Isles are regarded as separate countries. The A.R.R.L. list of countries will otherwise be used.

Overseas logs should be received by the Chairman, Contest Committee, Box 1734, G.P.O., Sydney, Australia, not later than 31st January, 1954. VK-ZL logs should reach the Contest Committee not later than 30th November, 1953. Remember, please send your log in, irrespective of the number of contacts you have made.

Duration.—(a) VK and ZL stations for Contest purposes will limit their period of operation to any consecutive 24 hours period on each week-end within the times given above. Once a contestant commences, he must not exceed 24 hours of operation, reckoned from each commencing time. (b) In other countries, stations may contact VK and ZL stations at any time within the periods shown above.

## TRANSMITTING

1. There will be three main sections to the Contest: (a) Transmitting—C.W. (b) Transmitting—Phone. (c) Receiving—C.W. and Phone. 2. Contestants may compete on one or more individual bands by submitting a log for each individual band.

3. The Contest is open to all licensed transmitting Amateurs and receiving stations in any part of the world. No prior entry need be made. Marine mobile stations (if outside Australian and New Zealand territorial waters) may count as contacts, but not as multipliers.

4. C.W. will be used for the first week-end of the Contest and Phone for the second week-end. Stations entering both C.W. and Phone Sections must submit separate logs for both Phone and C.W.

5. All Amateur frequency bands may be used. Cross-band operation will not be permitted.

6. Only one contact per band is permitted with any one station (for contest purposes).

7. Only one licensed Amateur is permitted to operate any one station under the owner's call sign. Should two or more operators operate any particular station, each will be considered a competitor and must submit a separate log under his own call sign. VK operators must abide by the P.M.G. Regulations in this regard.

8. Serial numbers to be exchanged during the Contest will be as follows:—

(a) For C.W. the first three figures will be the RST (telephony) report, followed by the

serial number of the contact, commencing with any number between 001 and 100 for the first contact and increasing in value by one (1) for each successive contact. If any contestant reaches 999 he will then start 001 and then continue 002, 003, etc.

(b) For Phone, the first two figures will be the RS (telephony) report, followed by the serial of the contact commencing with any number between 001 and 100 for the first contact and increasing in value by one (1) for each successive contact—five figures in all. If any contestant reaches 999 he will then start 001 and continue 002, 003, etc.

9. SCORING.—One point will be scored for each contact on a specific band with any overseas country (VK-ZL district for overseas stations). The final score will be obtained by multiplying the total contacts on each band by the total number of countries worked on each band.

The A.R.R.L. Official Countries List will be used except that in the case of the U.S.A. each call area shall be considered a country, and in the British Isles, each prefix.

VK-ZL Districts are: VK1, 2, 3, 4, 5, 6, 7, 8; ZL1, 2, 3, 4.

10. LOGS.—(a) Logs must show in this order: Date, time (G.M.T.), band, call of station worked, serial number sent, serial number received, and new country or VK-ZL district worked.

(b) A separate log must be submitted for each band for which an individual entry is intended.

Each log must show a summary as follows: The number of effective contacts, multipliers claimed and total points, together with a statement of call sign, name and address, and whether Phone or C.W., single-band or all-band operation.

Each page of the log must be numbered and signed by the Contestist.

The ruling of the Contest Committee of the W.I.A. will be final in the event of any dispute. 11. Entries from overseas stations should be endorsed "VK-ZL Contest," and should reach the Chairman, Contest Committee, Box 1734, G.P.O., Sydney, Australia, not later than 31st January, 1954. VK-ZL logs should reach the Contest Committee not later than 30th November, 1953.

## RECEIVING SECTION

1. The rules for the Receiving Section are the same as for the Transmitting Section, but it is open to all members of any Shortwave Listeners' Society in the world. No transmitting station is permitted to enter for the Receiving Section.

2. The Contest times and the logging of stations once on each band per week-end are as for the Transmitting Section. Logs will be in the same form as for Transmitting Section.

3. To count for points, the call sign of the station being called, the strength and tone of the call, together with the serial numbers sent by the calling station must be entered in the log. One point may be claimed for each entry complying with the above details.

4. It is not sufficient to log a station calling "CQ Contest."

5. VK receiving stations may log overseas stations and ZL stations. ZL stations may log overseas stations and VK stations. Overseas stations may log only VK and ZL stations.

6. Awards may be determined by the Contest Committee.

## COPY OF SUMMARISED LOG SHEET

Section C.W. \_\_\_\_\_ Band \_\_\_\_\_ Call \_\_\_\_\_

Phone \_\_\_\_\_ Band \_\_\_\_\_ Contest \_\_\_\_\_

VK-ZL DX Contest, 1953

Band	VK-ZL Dist. Countries	Contacts	Points
3.5 Mc.			
7 Mc.			
14 Mc.			
21 Mc.			
27 Mc.			
28 Mc.			
Total			

Name \_\_\_\_\_  
Address \_\_\_\_\_

I hereby declare that my station was operated strictly in accordance with the Rules and spirit of this Contest and I agree that the decision of the Contest Committee shall be final and binding in all matters pertaining to the Contest.  
Date \_\_\_\_\_ Signed \_\_\_\_\_

## COPY OF W.I.A. STANDARD LOG SHEET

Page \_\_\_\_\_ Call Sign \_\_\_\_\_  
Date \_\_\_\_\_ Emis. Call No. \_\_\_\_\_ No. QSL  
Time Band Pwr. Sign Sent Rec'd Dist. Ctm. S-R

I hereby certify that I have abided by the Contest Rules and the P.M.G. Regulations.  
Signed \_\_\_\_\_

## ADDENDA AND SUPPLEMENT TO RADIOTRON DESIGNER'S HANDBOOK

We have been advised by Amalgamated Wireless Valve Co. Pty. Ltd. that an Addenda and Supplement Booklet to the Radiotron Designer's Handbook (4th edition, first impression) has been published.

This Booklet contains additions and revisions incorporated in the second impression (now being printed), and are available, free of charge, to all owners of Handbooks from the first printing, by applying to Amalgamated Wireless Valve Co. Pty. Ltd., 45-47 York Street, Sydney.



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# FIFTY MEGACYCLES AND ABOVE

## NEW SOUTH WALES V.H.F. GROUP

A meeting of the W.I.A. V.H.F. Group was held on 7th August at Science House. The meeting was a great success, being a continuation of the Group discussion on mobile gear and its operation. The discussion was compered by Harry 2AJZ, who did a fine job. Congrats Harry, Horrie 2EL and Alf 2CE displayed and also described their gear. Fred 2ABC also brought in some equipment. A vote of thanks was given by Percy 2APQ on behalf of the meeting. The results of the Mid-Winter 2 Mx Contest were given and are as follows: 2HO and 2LG tied for first place with 43 contacts; 2AJZ was second with 42 contacts; 2HE and 2WJ tied for third place with 40 contacts; 2APQ, 35 contacts; 2ABR, 24 contacts. This Contest was over two nights from 7 till 11 p.m. Forty-nine stations participated. 2HO was pleased to hear one Newcastle station on and participating. Max 2OT, who was received at 58 on both nights. Max used a 16 element beam with low input.

On the Sunday, 23rd August, another fox hunt was held with 10 mobile stations participating—a really good roll up—40 stations. Stations assembled at one point, Burwood Park. All started off at 9.45 a.m. after all checking in to Horrie 2EL (starter of the hounds). First to find the fox was 2AJZ at 12.29 p.m. Second in was 2WJ at 12.29 p.m. An excellent location was selected by the "Old Dog" John 2ANF, accompanied by Mr. Ez Griffiths, and many stations had trouble finding him. The location was on the heights north-west of Windsor.

Mobile stations were VKs 2K5 and party, 2HL and Cess Cronan, 2WJ and company, 2ABR and XYL, 2CE and XYL, 2ABO and Albie, 2HE and 2AJR, Neil and Gordon, 2OA and 2LG, 2AJZ and XYL accompanied by 2GZ and 2HO, 2ATO and 2AZO. All were very in hear of Les' grief. 2ABE was along also on motor bike.

After a picnic lunch all re-assembled and another fox hunt was held, the winners of this latter event were 2AO first and 2ATO second. What a day! We wish to thank Fred 2ABC for standing by to take any lost hounds' phone calls. Thanks also to home stations who were operating, namely, VKs 2AST, 2AGT, 2ANK, 2NF, 2ABC, 2ABH. We also believe 2BZ, of Newcastle, was also on the look out. They did look for you Dave OM. We found some really good mobile outfits on the field, not to forget 2ABO's "effie" lower—a rotatable beam on the car roof. It looked really neat.

We are glad to hear from Max 2OT of Newcastle that there are a number of stations on now. VKs 2ADT, 2OT, 2ADS, 2XK, 2QB, 2ADR, 2ASJ, 2AGY, 2XY and 2AOR. Last but not least, 2BZ. We are hoping to contact all these stations for long in Sydney.

2HO and 2BZ have a link under almost any conditions at any time on 144 Mc.—minimum strength 50. Pete 2ABA has a nice signal on the band xtal control and an A.S.V. rc. Alex 2ABE is on with mod. osc. and super regen. Jack 2AGT has a mobile rig on two, xtal control on 145.16 Mc. Pete 2ABH has also nice signal, xtal control, 59 in and about Sydney. Percy 2APQ has a new mast and tower going up so

look out chaps! John 2ANF is back on 144 and 50 Mc again and is to renew contacts with the Western Hams—2WH, 2ACT, 2AMV, etc. F.m. will be used by John on these skeds. This is a tip for you DX hounds, get a certificate going on 144 Mc., you will not be disappointed. There are seven f.m. transmissions in Sydney, and many transmitters on their rx's. How about it Newcastle?

2RU has also been heard in Sydney again. So, Jack 2ADT has been copied in Sydney 59 and 144 Mc. 2ABR, 2AJR, 2AGY, 2ABH and 2WJ. The V.H.f. Group a visit and arrived at our meeting. He was surprised we had such a roll up. Good luck to all. There has been a great late on both six and two m. a.m. and f.m.

2BZ seems to have closed up, where are they all?

50 Mc. has been rather active of late, 2VW, 2HE, 2HO, 2ANF, 2ABR, 2AJR, 2RU, 2AGY, 2ABH, 2ABH and 2WJ. 2BZ heard.

Please note these dates—3rd, 4th and 5th October—the big Spring Field Day. On the 4th is the main day, the contest field day which begins at 9 a.m. until 5 p.m. Trophies will be awarded to the station who works the greatest number of stations over 50 miles from Sydney, also the greatest distance worked, and country stations, and also the near home portable station making the greatest number of contacts regardless of distance (three trophies in all)—2HO.

## VICTORIAN V.H.F. GROUP

Many and varied are the devices nowadays encompassed in the field of electronics, and one of these is the Geiger counter, which was the subject of a lecture by a member of the August v.h.f. meeting. The purpose of the instrument, as the lecturer explained, is to detect the presence of ionising radiation. There are three types of radiations associated, for example, with uranium:—

1. Alpha particles which are helium neutrons.
2. Beta electrons.
3. Gamma rays. (These are purely a high frequency radiation.)

The first two of these are not considered harmful, but the third, gamma rays, are extremely penetrating and dangerous to life when in quantity.

The heart of the Geiger counter is the Geiger tube which was developed by the German scientists, Geiger and Mueller. This tube will respond to gamma radiations working on ordinary electrons inducing sharp pulses of current flow in the tube. These pulses are amplified and may be heard by means of a speaker, or speaker. In order to actuate a mechanical counter satisfactorily, it is necessary to feed the pulses into a motor circuit which has been designed to produce square wave pulses. Another method of indicating the intensity of radiation present is a calibrated meter in the output of the instrument and this is useful for portable units. In demonstrating the instrument which 3IM had at the meeting, he showed the effect of cosmic radiation and also that emitted from a luminous wrist watch dial. Many questions were asked and Quentin was duly thanked for his most interesting lecture.

3LN then gave an account of a 2 mx "tri-angulation test" held during August when there was much beam turning to obtain bearings on the portable station operating from a number of suburban locations. During the interval between transmitting locations, bearings and signal strengths were exchanged between the fixed stations active at the time. To avoid confusion a control station called each in turn. As can be appreciated, the transmitter was kept brief. From the final location, 3LN announced the previous positions for the benefit of all taking part. This type of operation, as well as mobile work, is getting some attention at the moment due to the interest in C.D.E.N.

3DI, of Leongatha, has managed to push 2 mx signal through to several stations in the eastern suburbs, and hopes soon to have a rx running on that band as well as a higher beam; his frequency is 14.125 Mc. 3LN plans to operate mobile and portable each Sunday afternoon, so keep a look out for his signal on 14.63 Mc. Another country station who has been active on 6 mx is 3ATN, of Birchbirch. He is planning to try 2 mx soon.—3ABA.

## SOUTH AUSTRALIA

Having raised your curiosity about the Intra-State V.H.f. Contest, I am now able to announce the rules.

### Intra-State V.h.f. Contest Rules

Time: The Contest will be held over the period 0001 hours, Sunday, 18th October, to 2359 hours, Saturday, 24th October. Competitors may choose the best 72 hours (i.e. 3-day period) between the above dates.

Scoring: Tx Scoring—(1) Entrants must be members of the W.I.A. (2) Competitors may claim ONE point for each daily (0001-2400

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Amateur Radio, October, 1953

# DX ACTIVITY BY VK3AAH\*

As is well known to readers, this column had originally been established by Frank ZQL (ex-4QL) until Ray 7RK took over about 12 months ago. For reasons explained by Ray in the September issue, I shall carry on for the time being. Before reporting on this month's DX activities, I should like to offer a word of apology to both Frank and Ray for the excellent job they have done. All readers have undoubtedly enjoyed perusing this page and will agree with me that the column provides nice and interesting reading at all times. It may be difficult to maintain this high standard, but I shall endeavour to write these notes to everybody's satisfaction and am sure that, with your assistance, this will be possible.

## DX HIGHLIGHTS

It happened at last—the expedition to Easter Island took place during the first half of August. Unfortunately, only few VKs were lucky in contacting CE9AA—7KB being his first VK. FWR8A (7 and 14 Mc.) is a station on Wallis Island which counts as a country for the D.U.F. Award, but is not included in the official DX C.C. list (thanks JRY for dope).

By the time these notes reach you, LBBBD has probably been active from Christmas Island (thanks GDU).

## BAND CONDITIONS

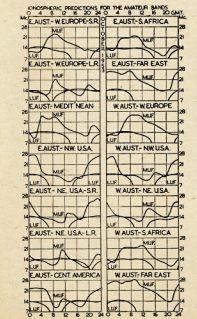
3.5 Mc.: DX conditions have been unsteady throughout the month. Atmospheric and other noises usually result in poor receiving conditions on this band. It is nevertheless felt that it would provide better DX possibilities if more overseas DXers would be active. Contests indicate that the good old 80 mhz band is not the worst DX band after all. No DX other than W land has been reported this month.

Doug TDZ reports W9HCW\*, WZLTA on phone, while Scott IAF and Doug 8BY, who is using low power, mention QSOs with numerous W\* on c.w. My own list shows ZK1BG\*, VR2CU, and Ws.

7 Mc.: This band offered fair to good DX conditions to all continents during the past weeks. It normally opened to Europe and North Africa on the short path. European openings via the long path seemed to be erratic, but providing good signal strength at times. Most American stations were observed around 1000-1300z, while South American conditions appeared to be unsteady. Signals from W land, Far East, and Pacific Islands were fairly consistent throughout the month.

\* 10 Belgravia Ave., Box Hill North, E.12, Vic.

## PREDICTION CHART FOR OCT., 1953



Operators on Macquarie Island enjoyed contacting a series of Ws\*, KL7s\*, and VEs\* as reported by Scott IAF. Noel 2AHH QSOed Ws\*, KH6s\*, and G8NF\*. 2AHH mentions TIEP\* Laurie has now worked 65 countries on 7 Mc. c.w. and one country on phone, making a total of 148 worked. Eric BERS19B has done some interesting listening. He has worked 65 countries on 7 Mc. c.w. and one country on phone, making a total of 148 worked. Eric BERS19B has done some interesting listening. He has worked 65 countries on 7 Mc. c.w. and one country on phone, making a total of 148 worked. Eric BERS19B has done some interesting listening. He has worked 65 countries on 7 Mc. c.w. and one country on phone, making a total of 148 worked.

14 Mc.: The majority of this month's reports refer to activity on this band. There seems to be some truth in saying that it is still the most popular DX band although conditions to practically all continents were somewhat changeable during August. The excellent North American openings on the short path (0300-0600z) during this band were somewhat erratic and winter months deteriorated as was to be expected, while rather unreliable long-path break-throughs to Europe and the Mediterranean area or a completely dead band took their place. During the latter part of the month the period 1000-1300z often provided Europe and South America with fair to good signal conditions to South and Central America were frequently observed (0100-0600z). Here now are the doings on the LOW END.

IAF lists Ws\*, KL7s\*, and a number of VP6s\*, while 2AHH worked YN1OC\* and 2AHH QSOed FORAC\*. Ken JKR reports HR1AA\*, KV4AA G2BY\*, VS6CR\*, and John SAK enjoyed QSOs with JAA4A\* and SMC5C\* (1430z). ARW logged KV4BB\*, JZ6KF\* as well as VEs\* and JAs\*. Bob says that ASD was successful in contacting FWA8B\*. 4XJ mentions ZC8S\*, and 8BY1W\* while a VP6 was heard. Doug 8BY, John 8GU says that conditions have been very poor in W.A. but was able to raise JZ6KF\*. TRK lists FK3AA\*, FK3AE\*, VR2BZ\*, VQ4RF\*, YN1OC\*, FORAC\*, and VU2CS\*. Ray mentions that W/VE were normally workable around 0600z in Tasmania. Up in New Guinea Alan 8YU opened the month's work log and found: HZ1AB\*, ODX4X\*, KG8ADI\*, KR6IN\*, KG8BF\*, KZ5IL\*, KZ5EU\*, VY3AE\*, VU2CS\*, VZ6KF\*, VS6CR\*, ZC3VS\*, VZ6GF\* (in Zone 2). Here at 2AHH we have TITZG\*, HR1AA\*, CO2CT\*, JZ6KF\*, VERGM\*, G5XW\*, G4JX\*, K8H6A\*, K8H6A\*, VY3AE\*, YN1AA\*, CE9AA\*, 4X4BX\* (0530z), HZ1AB\* (0600z), AP2N, KJ6AB, K8SAB, OH3RH, KV4BB, XTLD, ZB1RU, ZS5RU, and ZS5RU.

30 mhz Phone boys report their activities as follows: 2AHH is happy with his beam and tried it with results like HR1BG\*, XE1AC\*, HC2OL\*, TIEP\*, CP1AM\*, VY3AB\*, KZ6SW\*, TG8AZ\*, HP3FL\*, HP1CC\*, KV4BB\*, VY3AL\*, VY3BF\*, O44AF\*, Ws\*, KH6s\*, and VR2s\*. Hans 8AOU spoke with W and heard VS12E\*, SAKR QSOed ZK5WN\*, VS1VE\*, VS1FE\*, and Geoff 8AHS worked HR1BG\*, VK1AF\*, and Ws\*. SAKO lists VEs\* 0515V, VS1VE\*, VS1FE\*, JAZAA\*, KAP6C\*, Ws\* and VEs\*. Ray 2ATN mentions VY1CB\*, TG8SV\*, VPSAK\*, VP5DX\* in addition to the normal top of the band. 4RW's listings are FOR1A\*, VR4AE\*, ZC3VR\*, ZK2AA\*, HR1BG\*, K8BA0\*, KH6OR\*, VR3C, Ws\* and JAs\*. Hope that beam is up again Bob! 4XJ heard ZEEZ.

21 Mc.: Occasional break-throughs to W land and the Central American area beside erratic openings to the Far East and the Pacific Islands were the only DX conditions reported and observed here.

Quentin SIM lists JAZ6B\*, W5LF\*, TITZG\* on c.w. and KG8AUA\*, VK9GW\* and KH6AR on phone. 8AHS QSOed VK9GW\*. Geoff also reports hearing several Ws\* and VEs\*. HP1CA/MEM\* on c.w., while TRK worked VK9GW\* and heard KH6AR, both on phone.

28 Mc.: Our northern Sunspot activity apparently still communicate with stations outside VK as proved by 4XJ who worked KH8ARE\*, KH8ARE\* and heard a W1 on Rhode Island (date 24/8/53). Thanks Lou without you that band would not be worth commenting on, at least during the present period of minimum sunspot activity!

## GENERAL NEWS

KS6AB has been operating from American Samoa. JZ6KF gives his QTH as Dutch New Guinea and operates on c.w. 14 Mc. one frequency being 14020 Kc. VQ9UW was active early in August using c.w. on 14098 Kc. (thanks WBMPD). FQ4AP is looking for VK QSOs (particularly VK7) until January 1954, when he expects to leave for France. He intends

to operate from FB8 or FB8 later (thanks 7RK). W6AL will again visit VK-ZL in '53 (thanks BERS19B). Radio R.E.F.\* states that QSOs with FN8AD early this year are of "no official value". Licensed stations in French India China are FIBAA—EAF. It is understood that CR10AA on Timor is active again.

QTHs of interest—CBFV—via WIWAY. CE9AA—via CE9AG, Casilla 761, Santiago, Chile. FIB QSL Bureau—Box 327, Saigon, Viet Nam. French India China. FQ4AP—Casilla 761, Aero-Service, Fort Archambault, Tschad, F.E. HBIAG/HE—Helmuth Hoshiche (DLIAU), Box 91, Schaun, Liechtenstein.

Rare QSLs arrived at 2AHH: VQ9GW, ZC3VS (both 7 Mc.); 2AOU, P113; ZK3S: FIBAE; 3ATN: VY1CB; 4XJ: HP3FL; ZC3VS, SUBER, DUTS; 8YU: ZK20M, CE9AG, VY3AE, KG6FAA, ZB1BU, BERS19B, FUBAA, K8H6A, KP4CC, KW6BI, VS6DU, and VY5BE.

My thanks for assistance this month go to our s.w.l. BERS19B, and to VKs IAF, 2AHH, 2AHH, 2AOU, 3IM, SKR, 3AHS, 3AKO, 3ATN, 4RW, 4XJ, 5BE, 6GU, 7DZ, TRK, 9GM and 8YU.

The contest season is on chaps—so best of luck!

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# FEDERAL, QSL, and DIVISIONAL NOTES

## FEDERAL

### "LIMITED" A.O.C.P.

Mention was made in these columns in the August, 1953, issue of the proposed introduction of a Technician License, and the probable terms of this license was expressed.

The Postmaster-General's Department has chosen to list this as a "Limited A.O.C.P." this being mentioned so that readers and members will not be confused by the use of a different expression to denote the new form of license.

The Department now confirms that candidates will be required to complete the same examination, with the exception of the Morse code sending and receiving examination, as that required for the normal Amateur Operators' Certificate of Proficiency.

It is confirmed also, where application is made for same, that a "Limited" certificate will be granted to those candidates who passed the technical and regulations sections of A.O.C.P. examinations held since the 1st January, 1953. Holders of the "Limited" certificate will, upon payment of the requisite fee, be permitted to obtain the normal A.O.C.P. by successfully completing the relative Morse code test, and in this regard no time limit will be implemented. This means simply that the holder of a "Limited" certificate can sit for his Morse code any time he feels confident to pass the necessary test.

"Limited" certificate holders will be limited to operation on the bands of 144 Mc. and beyond.

### SUCCESSFUL A.O.C.P. CANDIDATES

The following is a list of candidates who were successful at the examination for the Amateur Operator's Certificate of Proficiency held on 14th July, 1953:—

#### New South Wales

McDonald, K. E., 5 Lombard St., Balgowlah, Sydney.

Cooper, W. J., 178a Jessie Street, Armidale.

#### Victoria

Hallyburton, J. R., Stonyford.

Woolley, A. M., 261 Glenferrie Rd., Malvern, Vic.

Charles, H. N., 237 Dandenong Rd., Windsor, S.A.

Falconer, W. J., 21 Irlibarra Rd., Canterbury, E.T.

## Queensland

Tow, R. C., 5 Brook Street, Bonah.

Cox, L. H., Nutgrove, Cooyar Line, via Toowoomba.

Ahnfeldt, Q. V., 34 Railway Avenue, Mount Isa.

## South Australia

Postler, K., 508 Moscow Street, Peterborough.

Judd, C. H., 215 Goodwood Rd., Colonel Light Gardens.

Barnden, E. G., 34 Lindsay Ave., Woodlands Park.

## Western Australia

Jacobs, W. W., 134 London St., Mt. Hawthorn.

## Tasmania

Hurburgh, M. H. B., 22 Clarke Ave., Battery Point, Hobart.

### USE OF HIGH POWERED COMPONENTS

The Postmaster-General's Department has recently advised that its Radio Inspectors throughout the Commonwealth have been reminded of the policy in connection with the use by Amateurs of a combination of high-powered components.

It is confirmed that the Department will not object to the use of such combined components so long as the final transmitter is so constructed that the licensed input power of 100 watts cannot be exceeded without a major change to the equipment providing a d.c. operating voltage, blinding, etc., and aerial loading facilities.

The Department has taken a most rational view of this long standing "thorn-in-the-side of the transmitting Amateur," and it is now the prerogative of every licensed Amateur to operate his equipment that the licensed power cannot under any circumstances be exceeded.

### LICENSE CHARGES

A summary of the license charges made by different Administrations against the issuance of transmitting facilities to Amateurs in the respective countries of the world has been circulated to all Amateur Societies by the Radio Society of Great Britain. Details of the fees charged were not received by the R.S.G.B. from Holland, Northern Rhodesia, Portugal, Sweden and Yugoslavia.

A perusal of the various charges shows Australia as being in a most lenient position compared to the States in which Amateur licenses are charged in other countries. For the information of members, a copy of the summary will be sent out to the Division. Any duly interpreted parties can obtain relevant information from his Divisional Federal Councillor or members of Council.

### REGION ONE CONGRESS

The Union Schweiz Kurzwellen Amateurs were hosts to Amateurs from 13 countries at an I.A.R.U. Region One Congress held at Lausanne, Switzerland, from 14th-17th May. Delegates from Austria, Belgium, Denmark, Finland, France, Germany, Great Britain, Italy, Luxembourg, Netherlands, Sweden, Switzerland and Yugoslavia attended the meeting. No delegates were sent from Belgium Congo, French Morocco, Iceland, Ireland, Norway, Portugal, or South Africa, but these countries were duly represented by other societies.

### FLOODS IN EUROPE

Radio Amateurs were credited with saving thousands of lives during the disastrous floods that ravaged parts of the Netherlands in late January and early February. According to newspaper accounts, the Netherlands Amateurs spontaneously took the initiative in establishing emergency communications. V.E.R.O.N. headquarters in The Hague, which is a national center, operated continuously for 100 hours, and many Amateurs, operating from boats, automobiles, and on foot, were too busy handling emergency traffic to consider sleep or changes of clothing.

PA Amateurs proved themselves more skilled in their operating than the military operators, who were amazed at their efficiency. It is estimated that about 40 Netherlands Amateurs took an active part during the emergency while over 100 others stood by on emergency frequencies to provide aid when needed.

Frequencies between 3675-3725 Kc. were in use by the emergency net, and Amateurs in other countries co-operated with the PA Amateurs in keeping these frequencies clear of all but emergency communications.

At the end of the emergency, the Director of the P.T.T. closed the emergency net operation with a message commending the Amateurs for

their magnificent service and suggesting the possibility of establishing a permanent emergency organization and net under their auspices.

Parts of Great Britain also suffered extensive flooding, and the R.E.P. was called into action that inundated the Netherlands. British Amateurs showed great alertness and courage in the handling of emergency communications, even though that country has no organized Amateur emergency system at the time. Amateurs in the British Isles have now expressed a desire to organize an emergency corps.

### AWARDS

Two awards recently offered by the R.E.P. are the Diploma do Mundo Portuguese and the Insular and Continental Portugal Award (D.P.C.I.). Rules are as follows:—

#### Diploma do Mundo Portuguese (D.M.P.)

The D.M.P. award is available to all Amateurs who are members of the I.A.R.U. societies and who can submit satisfactory evidence of having worked at least one station in each of the following Portuguese countries or possessions: Continental Portugal, Azores, Madeira, Cape Verde, Portuguese Guinea or St. Toma and Principe, and the Algarve, Angola, Guinea, Guine India, Macau and Portuguese Timor. All contacts must have been made after 29th July, 1947, and the list of stations worked must be submitted by the applicant to the R.E.P. for examination. The R.E.P. will pay all expenses connected with the return of QSLs and certificates.

#### Insular and Continental Portugal Award (D.P.C.I.)

The D.P.C.I. is available to all Amateurs who are members of I.A.R.U. societies and who submit proof of having contacted 50 different stations in the various continental Portuguese provinces, Azores and Madeira. Each province has been assigned a minimum number of contacts as follows:—

Tras-os montes e alto douro	1	Extremadura	— 10
Alentejo	1	Ribeira	— 1
Alentejo	1	Alentejo	— 1
Douro Litoral	1	Baixo Alentejo	— 1
Beira Litoral	1	Beira Litoral	— 1
Beira Baixa	1	Azores Islands	— 1
Beira Alta	1	Madeira Islands	— 1

All frequencies designated for Amateur use by Atlantic City agreement may be used, and telephony or telegraph may be permitted. Cards may be mailed to the R.E.P. for checking, but a list authenticated by the applicant's I.A.R.U. Association and mailed to the R.E.P. will be acceptable. QSL cards should confirm contacts after 1st January, 1953, and should be free from erasures and alterations.

#### Certificato del Mediterraneo

The A.R.I. has instituted an attractive new award, the Certificato del Mediterraneo. To be eligible, the Amateur must work at least 25 countries bordering the Mediterranean Sea plus 30 provinces of the Italian peninsula. Contacts may have been made by telegraph, June, 1953, and either telephony or telegraph, or both, may be used. The 52 QSL cards must be accompanied by a statement of the stations listed, the stations worked and giving the date, time, band and type of emission for each contact. In addition, the applicant must attest that he has abided by the regulations governing radio operation in his country. Minimum signal reports allowed at RST 338 for c.w. and RS 33 for phone. Applicants who are members of I.A.R.U. societies may send their cards to the society for processing, thus avoiding the necessity of mailing QSLs out of the country. Applicants who are not affiliated with I.A.R.U. societies shall send their applications to the Associazione Italiana Segreteria, Casella Postale 250, Torino, Italy.

## FEDERAL QSL BUREAU

### RAY JONES, VKRJ, MANAGER

One of the real old timers popped in a letter the other day. Screed was from Vic Chennell, VK3JH. Says I wouldn't recognise him now—saw him in beard and walking stick, but he has laid it on a bit thicker but contentedly he is approaching the degree of maturity where neither of the aforementioned ornaments look out of place. Good luck, Vic.

Felix, FK8AC, writes that Andre Baillet, FW8AA, who was installed on Wallis Island for the past two years, has returned to France.



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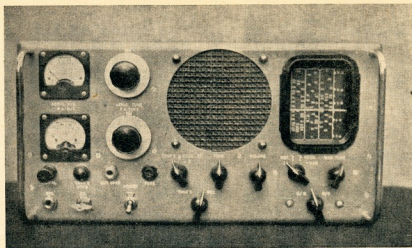
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3/- jar, Anode Brush 4/6.

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Type L336 twin flat 75-85	1/2 yd.
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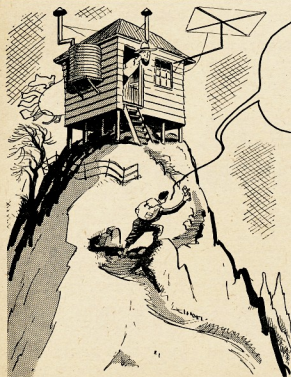
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had an enjoyable time renewing friendships made on the air at various times. Pleased to see you OM. Jack Fowler, an associate member from the S.E. at present in hospital, has a little eye trouble and we all hope that Jack is now OK. I was a little surprised to know that Jack was being bothered with his eyes, now that it has been over a year. I would have been quite prepared, judging by the eavesdropping that Jack does on 2mx when the local boys are on.

Everybody wants to get into the act!! Each year about this time I release to an anxiously waiting world the news that Frank SMZ is again the Ballarat band leader. Frank is again the usual party of YLs to compete at the South Street competitions. Imagine my feelings when I read that Frank had been section 1 runner up in the time last month and found that a gentleman, and I use that term with some hesitation, by the name of Ray Jones, GRJ, had taken me to thunder. To say that I am hurt to the quick would be a definite understatement, however, I do not intend to brood over the matter, because am used to these cruel barbs continually being hurled at me by members of other Divisions. The VK3 scribe huris insults, and I am sure that he has a right to, but at least that is what it looked like to me, and now the Federal QSL manager beats me over the head, the paper, the pen, and the way I can add to the news re Frank SMZ, by saying that he will be staying at the Hotel George in Ballarat, and hopes to be contacted by a Bude. I am sure that if he follows, he is a good scout, even if he talks like a Scotchman!

Brigadier J is at the moment walking on top of the world as he became the proud father of this month of a bonny bouncing boy. This makes a pleasant change from the usual of me keeping away from him for the next few days in case it is contagious.

I close the notes this month on a very optimistic note, I received a letter from VK4dyg which definitely confirms the news that I have had secondhand regarding Tom 3HX. When I was over that way recently he told me that he would be coming to the hospital and I immediately and hoped that they would be able to help him. I admit that he seemed optimistic, but I think that he, even if he has no more dreams, even thought he would come out of hospital in such fine shape as he apparently will be. I think he has the best of it, and with the news of your remarkable recovery Tom, and hope that you will soon be back in the Editorial chair.

Somebody must struck me. Here I have been bowing and scraping, crawling and apologising, backing and filling, to none other than VK3 ZL, Bowen, when in reality he should have been walking in fear and trembling of me. Why? Because as VK3 Sub-Editor, he is answerable to none other than me. Will that be good! Bowen, bring me this month's copy, I may be able to find a split inflection or something. 144 Mc. to you, Bowen, in fact 289.75, 289.75, 2360, and last but not 9550 Mc. At last the worm has turned! Thanks Ron. Down Bowen, Down Bowen! Must I get this last row out! Oh boy, oh boy, oh boy, life sweet at last!!

\*\*\*

## WESTERN AUSTRALIA

The results of the 40 Wx Scramble mentioned in last month's notes are as follows. 67m with 6HK a close second. It might be better to hold this Contest towards the summer months so that communication within the State and interstate is both the morning and the afternoon periods.

From logs received by the Secretary for the R.D. Contest, the VK5 effort was equal to last year, with only this year appearing in the results should be known. The writer in the year before last Contest worked six stations in last year had been heard on 100 watts. This year with 80 watts, it was a struggle to get those six contacts in under two hours. One of the two contacts was a station in the north, very nearly as good, or else there were many more stations on the air, and the unfruitful calls were more frequent. I think this last year was correct.

6WZ, from Geraldton, was a visitor to the City during the latter part of August, as also was 6KJ, from Albany. 6RT took the opportunity, during the school holidays to visit Perth. He calls from Naremburn. As the a.c. electricity supply is spreading throughout the country, it is not surprising that it is used (let to believe) that it at present stops just two doors away from his QTH. The wire gang should have pulled it to make it possible for him to be able to enable him to hitch on to the supply.

In the City, the long search for a windmill tower for 6WT has been successful. The result will be that 6RU and 6WT, who live two doors away from each other, will never be able to erect

a 40 mx rotary beam each, otherwise they might collide in mid-air. There is one advantage even now, that is, one catwalk between the two would support masts. I am sure they are ready to fray his rotary beam rotates with prospects of more DX.

The next general meeting will have as lecturer, 6HR. The title is "Reflexing and I'm now on the air" it has to do with erecting masts, or concerns motor generators.

6BO, to whose poor results I made reference in last issue, on his new 80 mx aerial attached to a 40 mx parasitic beam, has made a mark. This achievement is attributed to the fact that it is now completed with twin feeder leads—results are not expected.

The Perth City Council have a by-law drafted, which is now ready to go to Parliament, to make a licence charge of 1/- per foot for all masts or any part of a building (either the main building or smaller ones) within the area of the City Council. Intends to be slipping in a smart on before the introduction of television. It's a bit rough on those Hams who, through lack of space in the backyard, have put up 25 foot masts against the chimney in the rear of the house. The Council, of course, confronted with an official carrying a tape measure or an altimeter to ascertain how much the owner of the house has added, will, of course, not be taken without some action by the VK6 Division.

The Annual Dinner recently held showed a profit of over £5.

## TASMANIA

The rather unpleasant weather was perhaps not so well attended as usual. There was not much business for the meeting and by 8.30 p.m. the lecture was well under way. The evening's lecture was by Tom Allen, TAL, who told of the various virtues and vices of the TFD aerial. We were told to clean up or terminated tilted folded dipole, and Tom stood up well under the barrage of questions fired at him from the floor. The Chief questioner was Joe TBJ who was getting a bit of his own back and seemed to be very worried about the 15 p.w. he was getting out of the aerial terminating resistor. The theory was advanced that the aerial gets its chief qualities from the temperature inversion caused by the heat sinking of the resistor. It was said there must be some other reason for the results that Tom claims for the aerial. Anyway, it seems that it is a good job as the Chief questioner and the remarks of the lecturer and the lectured caused some amusement—there should be more of it. The usual banter and ragchew after the meeting round of quite a pleasant evening.

The first meeting of the Exhibition Committee was held at the 70M residence on Friday, 4th, and the wheels were set in motion for the building of a rig for the coming Exhibition. The rig decided on is a p.p. 807 job with an all-band chain and handwired exciter unit, modulated by the usual pair of 807s and mounted on a 6 ft rack. This rig will eventually become the 70M rig for the coming Exhibition, and we are depending mainly on donations from members for parts. The parts mainly needed are power supply bits and pieces and any other bits and pieces. It is a 100 watt modulated rig, so if you would like to make a donation towards it, as some have already done, the Committee would be happy and the Division would be saved some expense. What about it boys?

Because the Exhibition is being held in such a heavy rain, the 70M has also decided the Tramway workshops, it is proposed to have a receiving centre somewhere quieter and to tune the rig remotely from the Hall per v.h.f. link (I'll use the term) to the 70M. I am sure to show the public what goes on in various parts of the tx and antique radio gear originally used by the late TAL in the early Tasmanian radio days will be exhibited.

Some news this month from the Queenstown area, where my spy has been snooping lately. 6BR has been in the area, he is self-sufficient on the West Coast, but in spite of this, has worked into VK2 and VK3 and would have made ZL. Some VK3 came on the same frequency. ZL5 first made contact, then into VK3 also and after such success, has decided to try 144 Mc. amongst the mountains and valleys of the West Coast. It is a great such a hole, I mean IN such a hole, he thinks it may be difficult to get a v.h.f. signal out of, and proposes to make use of the wire lines, the characteristic impedance of the railway lines with a view to using them as feeders! TCF, after a long quiet, came on for the R.D. Contest, but was asked to leave the quota before the power transformer went up in smoke—must be the Queenstown dam Check.

Award for the magnificent effort for the month goes to Ian 7KB for his work in the R.D. Contest—if we don't get the trophy back this time, it won't be your fault Ian. Good work!

## NORTH WESTERN ZONE

Our Annual Meeting was held on the 28th August, at the home of Mr. J. Shand and associate, Mr. K. Hancock, who, with the aid of his XYL and a few friends, put on a very tasty supper after the meeting. The meeting was held with a 15 by 15 ft hall, A.M.I.R.E., on the application of remote control of our local broadcast station, after which an election of officers was held. The only change was that of President, which was filled by TAB.

Our thanks go to 7KB who has done a power of work for this zone, who has been President for the past few years, and has led us through many a crisis.

A discussion took place on the building of mobile gear for a proposed emergency network in this zone. Members at the meeting numbered 12, and we were pleased to see TAL and TDR present, who live in outlying districts. An apology was received from Eric TDM who recently had his foot burnt in caustic; we hope you are soon better again Eric.

## NORTHERN ZONE

A Sunday morning or two ago, after hearing TRK and TAM making a seek to meet at the former's, we heard that the Shand and associate, as the single interesting battle (not electronic) before them having been fully examined and tested, was being discarded—after such a show life too! Whilst their new 70M electronic key, it will even send perfect dots with the foot. (Cue for TFM to pass the appropriate remark in his own hearing.) Incidentally, Ray introduced a new innovation to our party meeting by pounding the keys (ivory) of the radio this morning before business began—must have more of it!

7KW is still with us. A little winded though from dodging gellie blasts while making holes for new masts on the new b.c. station. Was unable to be amongst the gang who admired the 638, 813 and 807s in the new b.c. to be heard on 100 watts.

Col T.L.Z. after being laid low with the gout, or some other gentlemanly complaint, is, we are happy to hear, back again. Gordon GCM, our busy Zone Secretary, has added another bustly around in a new car. 7RB's XYL will probably be considering radio as a hobby also, seeing that she has added another radio devotee. TBQ is carefully nursing a new QQ60/40. Last meeting Len brought in some very early forecasts, more to the interest of the younger OM's.

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**SELL.**—Dyncord Microphone, model 42M, £8; Decca F.F.F.R. Player Unit with mag. sapphire head, £6; Garrard D15 Player Unit less pick-up, £2; Dynamic Speakers, 5" and 8" 15/- each, 12" £1; Valves 12v. fil., 4/- each; also coils 1F's., etc. C. King, Albert Street, Corowa, N.S.W.

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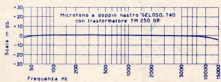
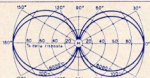
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Left: Cat. 416 Double Ribbon Microphone.

Above: Polar diagram response curve of Cat. 416.

Below: Characteristic response graph of Cat. 416.



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Output impedance is normally 250 ohms, but this can be raised to grid impedance (150,000 ohms) if desired by the use of a line transformer (Cat. TL250GR).

The characteristic response of the 416 Microphone is 30—13,000 cycles (see graph at left). The polar diagram response curve is shown at the left.

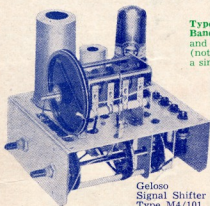
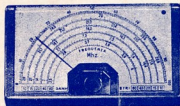
**Catalogue 416.—Double Ribbon Microphone without base, but with switch, four yards of screened low-loss cable, and TL250GR Line Transformer** £15/15/-

### GELOSO SIGNAL SHIFTER AND CALIBRATED DIAL

**Type M4/101:** A very stable five-band three-tube V.F.O. unit, fully wired and tested. **Bands:** 3.5—4, 7—7.45, 14—14.4, 21—21.6, 28—29.8 Megacycles. **Dial:** Fully calibrated and band spread over 180 degrees. **Tubes:** 6J5 oscillator, 6AU6 isolator, 6V6 output (not supplied). **Output:** Tuned on each band, giving at least 3.5 Ma. grid current to a single 807 on all bands. **Power Supplies** (not supplied with unit): 400v. at 32-54 Ma. **Price** (including Sales Tax): £10/4/9

- Instant change of frequency on any band by coil switching.
- Controllable output over entire tuning range.
- Single control full band spread on each band.
- Capacitive output.
- Utmost frequency stability ( $\pm 200$  c.p.s. on all bands).
- No plug-in coils required.
- Laboratory tested.
- Power supply required: 400 volts at 32-54 Ma.

#### DIAL FOR GELOSO V.F.O. UNIT



Geloso  
Signal Shifter  
Type M4/101

### CRYSTAL MICROPHONES

**Type M/400 Piezo-electric Microphone:** A very attractive chrome plated "ball" type Microphone of small physical size, complete with three yards of twin shielded low-loss cable. Thoroughly shielded. **List Price:** £5/19/11.

**Type T30:** Hand Microphone in well proportioned brown bakelite case. Unit stands on table without need for any stand. Uses UN10 fully screened insert. Complete with 4 ft. of twin screened low-loss cable. **List Price:** £3/12/-.



### CRYSTAL INSERTS

**Type M409:** Frequency response 40—7,000 cycles. Extremely robust and mechanically strong. Can withstand falls and knocks. No further casing is required as unit is complete as a Microphone of attractive appearance. **List Price:** 32/11.

**Type M410:** Same unit as M409, but with extra screening to exclude R.F. pick up. **List Price** 38/6.

**Type UN10:** A complete insert for incorporation in a cage in the manufacture of complete Microphones. Used in Microphones employed with Geloso Wire Recorders. **List Price:** 30/7.

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